UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

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SUBJECT: Reilly Tar Case/July 15 Trip Report

FROM: Robert E. Leininger DW for REL
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TO: Roger M. Grimes
Chief, Legal Section

The purpose of this trip was to interview Drs. Eula Bingham and James Selkirk in order to see whether either of them could be our toxicological expert at trial.

The day began with Mike Hansel of the MPCA giving an overview of the site, Reilly's operations and the environmental problems.

After the experts were briefed, we proceeded to interview them:

Dr. Selkirk

He has, for a number of years, done research on the mechanism by which PAHs, particularly benzo(a)pyrene, are metabolized in living organisms to cause cancer. He has conducted these experiments on the cells of many different species as well as on human tissues. He also is very familiar with the other toxic chemicals of concern which relate to this case and could testify as to their carcinogencity. He presents himself very well, is a very good speaker and has testified as an expert witness before. He would be a very good expert toxicologist for this case.

Dr. Bingham

She is different from Dr. Selkirk in two major respects. She has dealt more with mixtures of coal tar constituents as compared with individual compounds. Also, she had dealt with whole animals rather than with animal cells. She has done a great deal of skin painting and oral administration of toxicants to animals and then observed the physical results, such as tumor formation, liver nerosis, etc.

Her credentials and qualifications are excellent. She has testified in an OSHA case and has been deposed twice. There is no squestion that Dr. Bingham is an expert in her field, however, I was not as impressed with her ability to respond to questions as I was with Dr. Selkirk. I think Bingham would be a very good expert witness but Selkirk would be better.

There were no significant differences in the way the two experts viewed the case. They both stated many of the derivitive chemicals from coal tar and creosote oil were carcinogenic. They also said that any amount of such material found in drinking water, no matter how small, could cause cancer. They recommended that we do an analysis of the mixture of chemicals present at the site. Due to the synergistic effects of such chemicals, their combined effect would be significantly more harmful than that which would be posed by a singular carcinogenic chemical such as benzo(a) pyrene.

In order to analyze these mixtures it would be necessary to run a bioassay on them which would show the rate of mutagencity or abnormal cell division in a cell culture. The most common method at this time is the Ames test, which uses bacterial cells. Both experts, however, stated that another test, called the V-79 mammalian assay, has been developed and is being used in an increasing number of laboratories because of its accuracy and sensitivity. They would recommend that we use such a test. A laboratory run by David Brusick of Litton Laboratories is one of the best to use for this procedure.

The experts recommended that we do bioassays on highly contaminated water samples such as would be found in W-23 (the on-site well) and W-13 (just south of the site) which would probably give us high positive readings. I told them that we would probably need the most help, from an evidentiary standpoint, at the municipal wells where the contaminants are barely detectable. They said that you would have to take a large volume of the well water and concentrate it down by distillation in order to run a bioassay on chemicals in the parts per trillion range.

Some of the toxicants found in the drinking water, particularly PAHs, can be consumed in other ways, such as by eating charcoal broiled or smoked foods. I asked the experts whether they could compare the risk of drinking such water with these other risks. They said that they do not do risk assessments, which are more statistical in nature.

After we were done interviewing the experts I met with Dennis Coyne do discuss the strategy for the Finch deposition.

cc: Schaefer
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Bitter